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THE IMAGE OF "ARABS" AND "MUSLIMS" ON WYKOP.PL

"DIGITAL TURN" IN HUMANITIES AND SOCIAL SCIENCES. ADVANTAGES AND DISADVANTAGES OF USED METHODS

Over the last few years, the Internet has become more of an often explored field of research in social sciences. Increased interest is so significant, that some researchers started to talk about "digital turn". For example, on October 2012 at Maria Curie-Skłodowska University a conference named "Digital turn in humanities. The Internet – New Media – Culture 2.0" took place. This so called "turn" is not only about new field of studies, but also about new methods and techniques adopted for the needs of social sciences and the humanities. Indeed, social sciences and cultural studies can benefit from computer sciences. The change may not be revolutionary, but it's surely significant. New techniques allow things that were impossible for individual researchers or even for small teams. Now, it is possible to analyze a huge amount of data nearly in no time, thanks to techniques like machine learning, natural language processing and text mining.

The use of machine learning systems has a few significant advantages over a traditional way of conducting studies. First of all it is obviously its efficiency. Contrary to traditional methods, it requires only part of the data to be coded manually. Afterwards, the system learns from collected data and does the rest of the work automatically. This is a big time saver. It needs to be pointed out, that machine learning systems rely on data previously collected by humans. Thanks to that, work which is done automatically is not as much different as the data obtained manually. In conclusion – we¹ gain a much bigger database at the expense of only slightly poorer analysis. The second advantage is insensitivity of machine learning systems. One may say that machine will never have depth of human insight. That might be true, but at the same time algorithms are much less sensitive to human foibles. Human researchers can be tired, bored, exhausted, irritated or

¹ Presented research was made by Dominik Deja and the author of the article.

angry (especially when analyzing large amount of hateful comments). Machine learning systems do not have such problems. Therefore they can be much more objective. Last thing worth mentioning about benefits of used methods is that using machine learning systems serve researchers as relief from mentally aggravating research.

It is obvious that techniques used in this study also have some disadvantages. Even natural language processing systems are not that fluent with living language as humans. The Internet language – so called “netspeak” – is something that is very peculiar and for this reason, even linguists have many problems with it². One of the most important characteristics of netspeak is the tendency to create neologisms. As if that was not enough, those neologisms not always restrain themselves to standard text. Emoticons, extensive use of graphics and images, sloppy grammar and orthography – all of them cannot be easily processed by data mining algorithms. We can also expect that currently available technology would have a hard time with subtleties of human communication like irony, sarcasm or another Internet’s phenomenon – “trolling”. “Trolling” is a term for an anti-social (in most cases) practice of ridiculing or annoying other users of the Internet by sending false, deliberately ignorant or aggressive posts and messages. Internet trolls³ very often do not really agree with their own statements, which lead us to the conclusion that sometimes expressions categorized by system as “hateful” or “friendly” are not representing any real opinion. That is for sure a serious problem, but the Internet trolls, are a permanent part of virtual world whether we like it or not. There is not much we can do about it.

As we can see, computer-assisted analysis suffers from a few minor impairments, but on its defense – regular people are also exposed for trolling and misunderstanding complicated and sometimes hermetic netspeak. Intuition may prompt that it is easier to fool a program than a human, but it is not known who is more likely to be tricked by trolls. The last difficulty with analyzing data using computer-assisted methods is its insensitivity for a broader context of the enunciation. Famous discourse analysis theorist – Teun van Dijk described discourse as “text in the context”⁴. Unfortunately, part of it is always omitted in data mining.

Since technological and methodological problems have been clarified, we can move onto the main subject of research.

CURRENT STATE OF RESEARCH. SUBJECT, PERSPECTIVE AND GOALS OF STUDY

In this paper, an analysis of Arabs and Muslims image on wykop.pl is given. We have focused simply on sympathies and antipathies among so called “first” com-

² D. Crystal, *Language and Internet*, Cambridge 2001, s. 36–61.

³ “Trolls” is a term for users who troll (that is: do trolling).

⁴ T. van Dijk, *The future of the Field: Discourse Analysis in the 1990s*, “TEXT”, 1990, no 10, s. 133–156.

ments, which are most popular on wykop.pl⁵. Nearly two million comments, coming from years 2006–2014 have been analyzed. This means wykop.pl was evaluated from the very beginning of its existence until recent days (that would be the end of March 2014). Results were compared with declared levels of sympathies and antipathies to Arabs and Muslims through traditional field research results obtained from CBOS ([pol.] Centrum Badań Opinii Społecznej – Center of Public Opinion Research).

At the beginning, a current state of research on matter of the study was checked. Few studies were made, but on the polish ground none of them is similar to this project. The majority of researches were conducted in a traditional way – not through the Internet – whereas we were interested in cyberspace and dynamics between virtual and non-virtual realities. These of the researches which were conducted through the Internet were focused on pursuing so called “hate speech”. They used very specific and in our opinion not quite accurate measures. For example, studies presented in materials from a conference “Mowa nienawiści w Internecie. Jak z nią walczyć?” [“Hate speech in the Internet. How to fight it?”]⁶, carried out under the auspices of Helsinki Foundation for Human Rights, focused only on negative attitudes. Moreover, authors used absolute measures for estimating frequency of “hate speech” expressions. It seems to me, that this could be helpful for law enforcement organs (even from purely organizational and bureaucratic reasons), but from a sociological point of view this kind of research is quite useless. Knowing that amount of “hate speech” expressions which can be observed on the Internet is doubled when compared to the former year tells nothing, but the number of potential assumed lawsuits. Increase may be caused by the fact that the number of Internet users is growing or that Arab and Muslim affairs became more popular topic. There is no simple explanation what these numbers mean, until measures of the negative and positive expressions are related. If the amount of negative or even hateful opinions related to Arabs doubled year by year – does that mean that attitudes among the Internet users are twice as bad as they used to be? Not necessarily. If the increase of positive expressions was even more significant, let us say that amount tripled, that means the opposite - Arabs became more liked, not less. Increasing number of negative expressions could be caused only by the fact, that the topic itself became more popular. Furthermore, focusing only on one aspect – in this case the negative one – is more likely to be endangered by possibility of making an “observer error”. This term is used to describe a common tendency for preferring observations which confirm the original thesis⁷. Seeking

⁵ The characteristics of the portal and system of comments organization will be explained later.

⁶ A. Serment, *Rola prokuratury w ściganiu przestępstwa mowy nienawiści*, [in:] *Mowa nienawiści w Internecie*, red. D. Bychowska-Siniarska, D. Głowacka, Warszawa 2013, s. 21–26, [on-line:] <http://www.obserwatorium.org/images/Mowa%20nienawisci%20w%20internecie%20-%20NA%20STRONE.pdf>, [13.07.2014].

⁷ R. B. Cialdini, D. T. Kenrick, S. L. Neuberg, *Psychologia społeczna. Rozwiązane tajemnice*, Gdańsk 2002, s. 53.

only for negative attitude may cause that researcher would form a biased view on the matter which is subject of research.

Among most of studies focused on virtual reality, it is not quite clear what kind of connection researchers assume to be between opinions expressed in the Internet and “real life” attitudes. In the early years of discourse analysis, researchers held up with assumption that discourse in media is “a mirror of society”. Later it began to be perceived as “a creator of society”⁸. Given that we have decided to explore both fields, virtual and non-virtual separately, it is clear that one of the goals of this paper is to examine which version is more likely to be true – discourse as a mirror or creator of social life. It is also possible that none of them are correct. Sometimes, content which may be classified as “a negative attitude”, like racist jokes, could be just an expression of someone’s black sense of humor. Real attitudes for ethnic or religious groups and for example general attitudes for acceptable limits of a joke (not only those which are made through the Internet) are sometimes really hard to distinguish. Stating that content, which may not be very plausible for Arabs and Muslims, shows intentionally expressed reluctance is a little bit too hasty. It might as well be just someone’s indelicacy. Rudeness might be not intended for the Arabs or/and Muslims only. It’s also unknown if negative presentations of ethnic or religious groups via the Internet can shape “real life’s” attitudes. People are active recipients and they do not adopt views which can be seen in the Internet automatically⁹. Knowing that relation between expressions present in virtual space and real life attitudes is complicated, we have restrained ourselves from any pre-assumptions on this matter.

Another difference between some existing research and our project is that emic perspective has been applied¹⁰. I did not arbitrate if terms “Arab”, “Muslim” or “Islamist” were used correctly by the Internet users. It did not matter to the analysis, if so called “Arab” really has Arab ethnicity. More important was the fact that someone was categorized as “Arab” by wykop.pl users. Majority of existing research does not emphasize a difference between emic and etic perspective. In most cases it means that respondents will answer according to their knowledge, which basically corresponds to an emic perspective research standards. Some might think that it is not a very important difference, but in our opinion it is always better to clear things up and be as precise as possible. That is why words “Arab” and “Muslim” in the title of this paper were taken into quotation marks. Knowing that “Arabs” are not always ethnically Arabic, but for example Pakistani or even Indonesian, makes easier to avoid unnecessary mistakes in further analysis. An even more common misapprehension among average westerners is that being Arab is indistinguishable from being Muslim. It is important to highlight the fact that our research refers not to real ethical or religious status, but often to some

⁸ A. Horolets, *Analiza dyskursu w socjologii i dla socjologii*, 2008: Toruń, s. 5.

⁹ J. Fiske, *Zrozumieć kulturę popularną*, Kraków 2010, s. 133–164.

¹⁰ M. Harris, *History and Significance of the Emic/Etic Distinction*, “Annual Review of Anthropology”, 1976, no 5, s.329–350.

kind of stereotypical image of Muslim-Arab. This kind of bond between religious and ethnical or national identification is easy to understand for Polish people, because it's similar to so called "tangled identity" of Polish-Catholic¹¹.

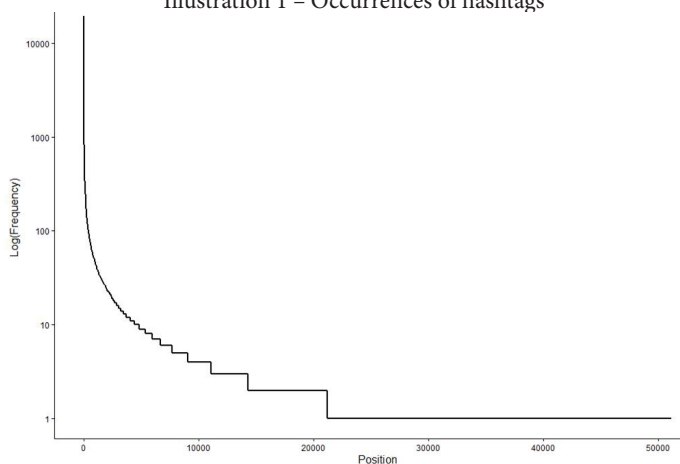
Last difference between present research and those, which can be found, is that we are not focusing only on immigrants or Arabs and Muslims which are minorities in countries where they are living, but on Arabs and Muslims in general presented in the Internet. A lot of research we have found was conducted by government agencies. Obviously, their main goal was to provide useful data for government organs, so they were not interested in analyzing perception of Arabs and Muslims, who are not living inside the country. Our study has more of an anthropological attitude.

EMPIRICAL STUDY. RESULTS AND CONCLUSIONS

The study refers to a popular social news portal – wykop.pl. It is a copy of American digg.com and was founded by the end of 2005. The rules of wykop.pl are simple. Every user can add news. Other users can vote for or against recently added posts and the most popular reach the main site. Since the beginning, there were over six million posts on the main site. Two million among them are so called "first posts". This term refers to the earliest posts added. Majority of non-first posts are just responses for initial ones. That is why our research was focused only on the first posts. Comments were not the only subject of the study. The dynamics of hashtags were also examined.

The overall distribution of hashtags on wykop.pl is an example of power-law distribution. Sociologists and economists may know it well from classic works of Vilfredo Pareto. Pareto distribution can be simplified to "80-20 law". In our case it means that 20% of most popular hashtags have 80% of overall occurrences.

Illustration 1 – Occurrences of hashtags



¹¹ K. Koseła, *Polak i katolik. Splątana tożsamość*, Warszawa 2003.

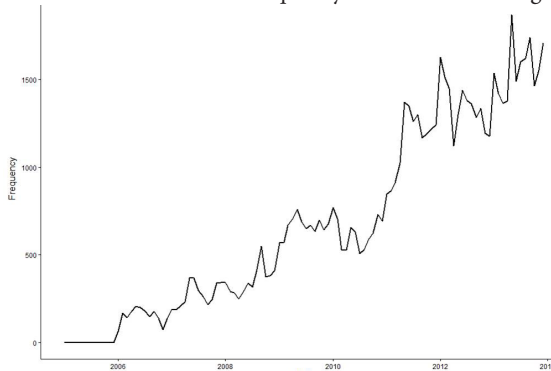
It is quite clear that on wykop.pl the most popular topics accumulate most of the posts. Taking this into account, we can conclude that Arab and Muslim issues are not on the list of the hottest topics. As we observed, the first tag associated with the subject of our study was found on position thirty nine. Arab and Muslim topics are not overlooked issues as well. List of most popular tags associated with subject of our research contains one “suspicious” position. Below we present the table of hash-tags frequency. English translation of hashtags were included in brackets.

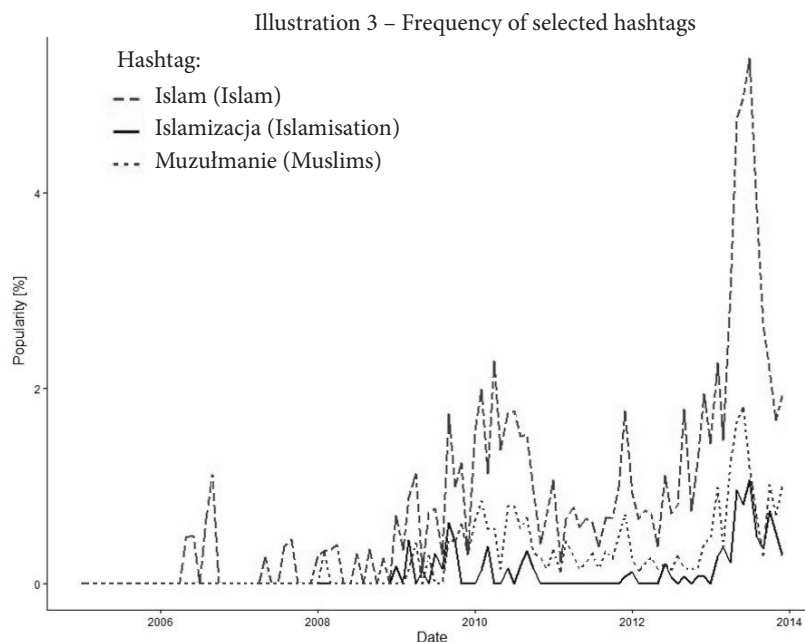
Table 1: Hashtags frequency

Position	Hashtag	Frequency
39	#islam (islam)	1025
113	#muzulmanie (muslims)	323
233	#iran (iran)	166
239	#syria (syria)	161
293	#egipt (egypt)	135
294	#afganistan (afghanistan)	135
299	#islamizacja (islamisation)	133
384	#irak (iraq)	105
456	#turcja (turkey)	93
585	#libia (lybia)	75
681	#palestyna (palestine)	64

The word “islamizacja” [“islamisation”] has negative connotations in the polish language (and maybe in other languages as well). It often refers to aggressive form of islamic *Kulturkampf*. For example, popular in Poland anti-islamic facebook group was named “Nie dla islamizacji Europy” [“No for islamisation of Europe”]. Overall frequency of this tag was not very significant though. Next thing we have examined was popularity of hashtags in time. We have selected only those hash-tags, which related to Arabs or Muslims in general.

Illustration 2 – Frequency of sites with hashtags





As for hashtags so far, we could conclude that perception of Arabs and Muslims is rather neutral. Users of wykop.pl prefer using impartial tags like “islam” or “muslims” rather than “suspicious” tag or “islamisation”.

As a next part of the analysis co-occurrence of hashtags associated with three previously analyzed tags were examined. Here is the list of fifty most frequently occurring hashtags.

Table 2: Most frequent co-occurrences

Position	Hashtag	Frequency
1	#islam (islam)	788
2	#swiat (world)	550
3	#europa (europe)	392
4	#muzułmanie (muslims)	222
5	#religia (religion)	183
6	#zainteresowania (interests)	107
7	#wydarzenia (events)	89
8	#islamizacja (islamisation)	88
9	#polska (poland)	61
10	#anglia (england)	54
11	#ciekawostki (curiosities)	49
12	#wojna (war)	41
13	#egipt (egypt)	40
14	#niemcy (germany)	36
15	#kultura (culture)	35
16	#terroryzm (terrorism)	34

17	#usa (usa)	33
18	#francja (france)	32
19	#syria (syria)	30
20	#chrzescijanie (christians)	27
21	#uk (uk)	27
22	#chrzescijanstwo (christianity)	26
23	#nauka (science)	26
24	#multikulti (multicultural ¹)	24
25	#religiapokoju (religionofpeace)	23
26	#gwalt (rape)	21
27	#prawo (law)	21
28	#rozrywka (entertainment)	21
29	#historia (history)	20
30	#humor (humour)	20
31	#pokoju (peace)	20
32	#imigranci (immigrants)	19
33	#szariat (sharia)	18
34	#szwecja (sweden)	18
35	#mahomet (mohammed)	17
36	#wielkabrytania (greatbritain)	17
37	#pakistan (pakistan)	16
38	#imigracja (immigration)	15
39	#wielka (great)	15
40	#brytania (britain)	14
41	#morderstwo (murder)	14
42	#muslimy (muslims ²)	14
43	#kobiety (women)	13
44	#ue (eu)	13
45	#koran (quran)	12
46	#meczet (mosque)	12
47	#turcja (turkey)	12
48	#londyn (london)	11
49	#przemoc (violence)	11
50	#wolnosc (freedom)	11

¹ Original polish term “multikulti” cannot be translated. In general it is associated with pejorative attitude for multicultural politics.

² Word “muslimy” is also pejorative term for Muslims.

As we can see a few hashtags which probably indicates a negative attitude in relation to the Arabs and/or Muslims can be observed: war (position 12), terrorism (16), multicultural (24), rape (26), murder (41), Muslims (42), violence (49). The rest of the hashtags are mostly neutral, excluding tag “curiosities” (11) which is positive. Hashtag “religionofpeace” might also be classified as friendly, but it is often used ironically, so it would be risky to think that way. A similar situation is

with hashtag "freedom" (50). It is not clear if tag is used for freedom or violations of freedom. On the basis of this data, we can surely state that negative attitude for Arabs and Muslims are quite common, but not too intense.

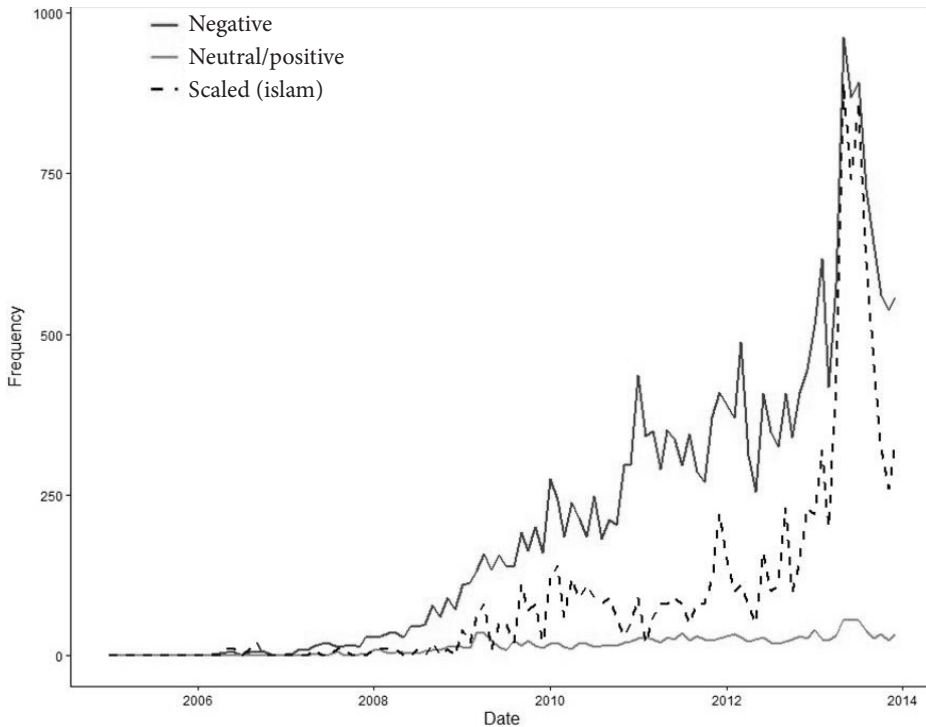
As it was previously said, we have not limited ourselves to the analysis of hashtags. The primary goal was to examine sentiment of the wykop.pl users present in comments towards "Arabs" and/or "Muslims". The first step which we have taken was coding manually two thousand comments. This means that each of the two researchers read a thousand posts and marked two things: sentiment and whether a comment is referred to the Arabs, Muslims or both. To describe sentiment, we have used semantic differential – standard sociological tool wherein value is contained between two extreme ideal types. Code 1 is extremely positive attitude, 7 – extremely negative attitude. All numbers in between describe less radical attitudes. In the first two thousand posts, only 1% referred to Arabs or Muslims, so we have decided to search new comments by using hashtags. Owing to this method we have received more concentrated data. Then another few thousand comments were analyzed manually. Ultimately we have received 1000 tagged posts related to the subject of our study acquired from 8720 read comments.

The overwhelming majority of them showed negative attitude of wykop.pl users for "Arabs" and/or "Muslims". Positive expressions were so few, that it was impossible to teach algorithm to code comments which were friendly for the subject. We have also noticed, that in strongly negatively oriented discussions, users which were trying to stand up for "Arabs" and/or "Muslims" wrote statements which in different context would be considered neutral. Taking into account the situation, we have decided to limit ourselves to only two categories of expressions: negative and neutral-positive. Obtained database was used for teaching the algorithm to code the rest of two millions posts automatically. Before we get to the results, it is important to point out that phase of manual coding must be conducted with close co-operation of researchers. It is crucial to the quality of research that the way of coding of all researchers is as similar as possible. That is why the manual coding step was carried out simultaneously, in the same room under conditions of full and constant communication. It is known fact that neglecting requirement to achieve compliance of encoder's results in poor analysis¹².

The program previously taught for the posts detection and evaluation of sentiment, found 24124 cases of expressions related to "Arabs" or/and "Muslims", that is 1,23% of the full "first posts" population. 93,06% were tagged as negative and 6,94% neutral-positive. To see how intensity of sentiments was changing over the time, we have created a graph. Diagram contains one additional function showing scaled values of sentiment intensity. Scaling helped to avoid confusing popularity of "Arabs" or/and "Muslims" issues with real changes in sentiment.

¹² M. Troszyński, *Wykorzystanie automatycznej analizy tekstów w badaniach społecznych*, lecture presented at the conference: „Digital turn in humanities. Internet – New Media – Culture 2.0”, [on-line:] <https://www.youtube.com/watch?v=WLM6NHLaBnE> [13.07.2014].

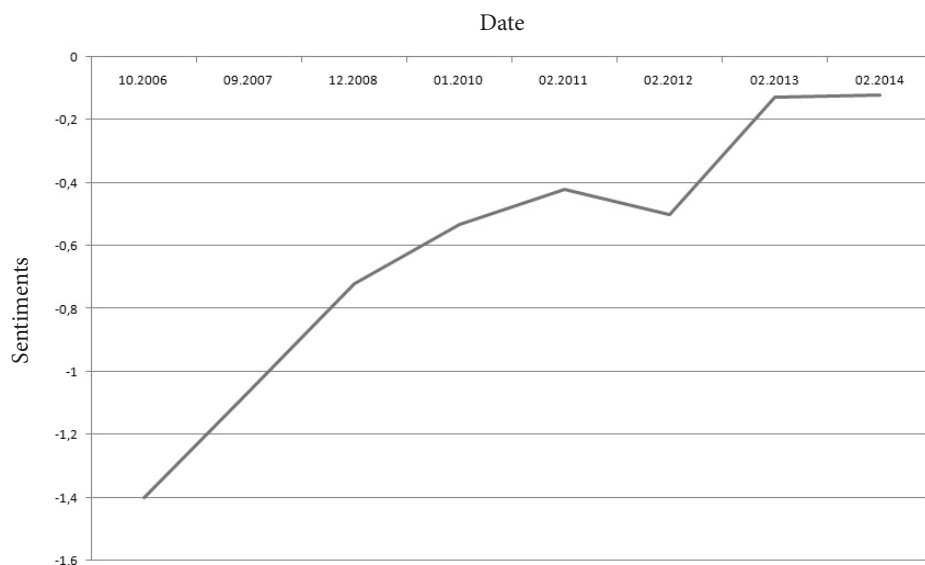
Illustration 4 - Sentiments changes towards "Arabs" or/and "Muslims"



As we can see on the illustrations 3 and 5, a major increase of interest towards "Arab" and/or "Muslim" issues can be observed in the beginning and in the middle of 2013. Probably that this growth is caused with political crisis in Egypt. General attitude among wykop.pl users are strongly negative and the increase of reluctant or even hateful posts cannot be explained by increase in popularity of "Arab" and/or "Muslim" issues. The Increase of negative expression is faster than the increase of posts related to subject of study.

Now the results of traditional surveys are compared to the outcome from wykop.pl study. We have gained data from CBOS for interval of 2006 to 2014. For the last two years, studies carried out by CBOS stopped to examine sentiment towards Arabs in favor to a few Middle East nations: Palestinians, Egyptians and Turks. In 2013, a study included Turks, Egyptians and Palestinians. In 2014 only Turks and Egyptians. In the diagram below, for the years 2013 and 2014, we have used averages for mentioned nations. Even if Turks are not Arabs, they are often confused with Arabs by average respondents as we could see during the manual phase of coding.

Illustration 5 - Sentiment towards Arabs among Polish by CBOS



As we can see, declared attitudes towards the Arabs are getting more positive, contrary to the results obtained from the wykop.pl. This phenomenon can be explained in several ways. The first possibility is that wykop.pl users are not a representative group for Polish people in general. Secondly, the specific communication by the Internet forum which includes an aggressive argument causes short term radicalization of attitudes. Third aspect is that wykop.pl users, which were slightly prejudiced about Arabs and Muslims in the beginning, started to radicalize in the surrounding of other people who share their views. Fourth one is that respondents examined with traditional survey, are more likely to hide their real attitudes because of social facilitation. Of course those are idealistic explanatory models. The real answer would probably be based on a combination of all four causes. It is hard to answer if the study conducted through the Internet can reflect real life attitudes. It is clear that the study focused only on one Internet forum, however influential, cannot be treated as "a mirror of society". Moreover, it is also unknown if attitudes presented on wykop.pl by users are similar to their everyday behavior.

BIBLIOGRAPHY

- Cialdini R. B., Kenrick D. T., Neuberg S. L., *Psychologia społeczna. Rozwiązane tajemnice*, Gdańsk 2002.
- Crystal D., *Language and Internet*, Cambridge 2001.
- van Dijk T., *The future of the Field: Discourse Analysis in the 1990s*, "TEXT", 1990, no 10, s. 133-156.
- Idem, *Badania nad dyskursami*, [in:] *Dyskurs jako struktura i proces*. red. T. van Dijk, Warszawa 2011, s. 9-44.
- Fiske J., *Zrozumieć kulturę popularną*, Kraków 2010.
- Harris M., *History and Significance of the Emic/Etic Distinction*, "Annual Review of Anthropology", 1976, no 5, s.329-350.
- Koseła K., *Polak i katolik. Splątana tożsamość*. Warszawa 2003.
- Omyła-Rudzka M., *Stosunek Polaków do innych narodów*, BS/22/2012, [on-line:] http://www.cbos.pl/SPISKOM.POL/2012/K_022_12.PDF [10.03.2014].
- Eadem, *Stosunek Polaków do innych narodów*, NR 20/2014, [on-line:] http://www.cbos.pl/SPISKOM.POL/2014/K_020_14.PDF [10.03.2014].
- Roguska B., *Stosunek Polaków do innych narodów*, BS/12/2013, [on-line:] http://www.cbos.pl/SPISKOM.POL/2013/K_012_13.PDF [10.03.2014].
- Serment A., *Rola prokuratury w ściganiu przestępstwa mowy nienawiści*, [in:] *Mowa nienawiści w Internecie*, red. D. Bychowska-Siniarska, D. Głowacka, Warszawa 2013, s. 21-26, [on-line:] <http://www.obserwatorium.org/images/Mowa%20nienawisci%20w%20internecie%20-%20NA%20STRONE.pdf> [13.07.2014].
- Streszewski M., *Stosunek Polaków do innych narodów*, BS/148/2006, [on-line:] http://www.cbos.pl/SPISKOM.POL/2006/K_148_06.PDF [10.03.2014].
- Idem, *Stosunek Polaków do innych narodów*, BS/144/2007, [on-line:] http://www.cbos.pl/SPISKOM.POL/2007/K_141_07.PDF [10.03.2014].
- Idem, *Stosunek Polaków do innych narodów*, BS/193/2008, [on-line:] http://www.cbos.pl/SPISKOM.POL/2008/K_193_08.PDF [10.03.2014].
- Troszyński M., *Wykorzystanie automatycznej analizy tekstów w badaniach społecznych*, lecture presented at the conference: "Digital turn in humanities. Internet – New Media – Culture 2.0", [on-line:] <https://www.youtube.com/watch?v=WLm6NHLbNc> [13.07.2014].
- Wądołowska K., *Stosunek Polaków do innych narodów*, BS/12/2010, [on-line:] http://www.cbos.pl/SPISKOM.POL/2010/K_012_10.PDF [10.03.2014].
- Eadem, *Stosunek Polaków do innych narodów*, BS/13/2011, [on-line:] http://www.cbos.pl/SPISKOM.POL/2011/K_013_11.PDF [10.03.2014].

SUMMARY

THE IMAGE OF "ARABS" AND "MUSLIMS" ON WYKOP.PL

In this paper, an analysis of Arabs and Muslims image on wykop.pl is given. We have examined frequency and characteristics of hashtags related to "Arabs" and "Muslims". Afterwards, nearly two million comments, coming from years 2006–2014 have been analyzed, thanks to the machine learning and natural language processing techniques. We have studied changes of interests in "Arabs" and "Muslims" issues, and also changes in attitudes towards mentioned groups among wykop.pl users. The results have confirmed that image of "Arabs" and "Muslims" on wykop.pl is strongly negative. Increase of interests in topics related to subject of this paper was also noticed. However, we did not take into account the fact that sometimes, identifying some people as Arabs or Muslims was incorrect. The results obtained from our study were compared with reports made by CBOS ([pol.] Centrum Badania Opinii Społecznej – Center of Public Opinion Research) for years 2006–2014. Despite rapidly increasing antipathies among wykop.pl users, similar tendencies in nationwide studies were not present. According to CBOS reports, changes in attitudes among polish people were just the opposite – reluctance towards Arabs among Polish decreased during that time. This discrepancy allowed to challenge the belief that accurate prediction of attitudes among Internet users based on results obtained from nationwide survey (and *vice versa*) is possible.